

CLAIMS

1. A valve of a cleanable design capable of maintaining unfavourable conditions for microbial activity on the downstream side and/or outlet of the valve, said valve comprising:
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- A smooth and contoured body with an integral upstream connector, downstream connector and defined fluid flow path;
 - A flexible sealing membrane being:
 - 10 i. Selectively moveable into contact with the said valve body to close said valve;
 - ii. Selectively moveable out of contact with the said valve body to open said valve.
 - iii. Selectively operable to a range of positions to vary the flow rate of fluid through said valve;
 - 15 • Defined internal shape that allows the fluid to drain out of the said valve body;
 - An elongated heater secured into said valve body in a location so as not to be in contact with the fluid or disrupt the internal smooth and contoured body, said heater being operative to heat the valve body to a predetermined temperature.
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2. A valve as set forth in Claim 1 capable of raising the temperature at the outlet of closed said valve to promote drying by reducing surface tension of the fluid for better draining, and by increasing evaporation.
3. A valve as set forth in Claim 2 capable of raising the temperature on the downstream side of said valve above 60°C.
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4. A valve as set forth in Claim 3 with an down stream connector contoured and smooth to promote free draining including a small discontinuity to break surface tension.
5. A valve as set forth in Claim 4 with a thermodynamic external body shape to maximise achievable temperature in the downstream side and downstream connector of the said valve.
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6. A valve set forth in Claim 5 with a polymeric insulating coating, which can be colour coded, covering the valve body and outlet connector.

7. A valve of cleanable design capable of regulating and or supplying a selected quantity of medium that possesses enhanced properties at elevated temperatures, said valve comprising:

- A smooth and contoured body with an integral upstream connector, downstream connector and defined flow path;
- A flexible sealing membrane being:
 - i. Selectively moveable into contact with the said valve body to close said valve;
 - ii. Selectively moveable out of contact with the said valve body to open said valve.
 - iii. Selectively operable to a range of positions to vary the flow rate of medium through the valve;
- Defined internal shape that allows the medium to drain out of the said valve body;
- An elongate heater secured into said valve body in a location so as not to be in contact with the medium or disrupt the internal smooth and contoured body, said heater being operative to heat the valve body to a predetermined temperature.

8. A valve as set forth in Claim 7 capable of raising the temperature of said valve body around the downstream side of the metal sealing face that comes into contact with the flexible sealing membrane to above 100 °C.

9. A valve as set forth in Claim 8 with a thermodynamic external body shape to maximise the heat into the metal sealing face that comes into contact with the flexible sealing membrane.

10. A valve set forth in Claim 9 with a polymeric insulating coating, which can be colour coded, covering the valve body inlet and outlet connectors.

11. Valve of cleanable design capable of maintaining the temperature of the metal sealing face that comes into contact with the flexible sealing membrane of said valve at an elevated temperature to assist in achieving sterilisation or decontamination conditions on the upstream side of said valve being heat treated by a suitable process, said valve comprising:

- A smooth and contoured body with an integral upstream connector, downstream connector and defined flow path;
- A flexible sealing membrane being:
 - i. Selectively moveable into contact with the said valve body to close said valve;
 - ii. Selectively moveable out of contact with the said valve body to open said valve.
 - iii. Selectively operable to a range of positions to vary the flow rate of fluid through the valve;

- Defined internal shape that allows the fluid to drain out of the said valve body;
- An elongate heater secured into said valve body in a location so as not to be in contact with the fluid or disrupt the internal smooth and contoured body, said heater being operative to heat the valve body to a predetermined temperature.

12. A valve as set forth in Claim 11 capable of raising the temperature of said metal sealing face that comes into contact with the sealing membrane to above the sterilisation temperature of at least 121°C.

13. A valve as set forth in Claim 12 with a thermodynamic external body shape to maximise the heat into the metal sealing face that comes into contact with the flexible sealing membrane.

14. A valve set forth in Claim 13 with a polymeric insulating coating, which can be colour coded, covering the valve body and outlet connector.